conductive heat transport across a gap between the heat exchange member and the substrate in the second position, the substrate being seated upon the support in each of the first position and the second position.

65. (Amended) A cooling mechanism in a substrate processing system, the mechanism comprising:

a support structure, the support structure configured to support a substrate in a process chamber during high temperature processing; and

an actively cooled thermal exchange member,

wherein the support structure and the thermal exchange member are relatively movable between a cooling position within the process chamber, in which the substrate is supported upon the support structure between about 0.2 mm and 3 mm from the thermal exchange member, and a substrate load position, in which a wafer handler can place the substrate upon the support structure.

71. (Amended) The cooling mechanism of Claim 65, wherein the substrate is supported upon the support structure between about 0.5 mm and 1.5 mm from the cooling element in the cooling position.

72. (Amended) A processing reactor for high temperature treatment of substrates, the reactor comprising:

a plurality of walls defining a chamber;

a movable substrate support structure;

a heat source for heating a substrate upon the support structure within the chamber;

a thermal exchange member; and

a drive mechanism for moving the support structure between a first position within the chamber and a second position within the chamber, the first position allowing treatment of the substrate upon the support structure, the second position allowing the thermal exchange member to be spaced from the substrate by between about 0.2 mm and 3.0 mm to enable conductive heat transport between the thermal exchange member and the substrate.

REMARKS

Claims 53-59, 65, and 67-76 are pending. The Examiner has indicated that Claims 56-58 and 67 are considered withdrawn until a generic claim is allowed, in view of a previous election